

=> d his

(FILE 'HOME' ENTERED AT 11:28:06 ON 04 DEC 2002)

FILE 'REGISTRY' ENTERED AT 11:28:44 ON 04 DEC 2002

L1 1 S 9076-63-5/RN

FILE 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, DRUGUPDATES, .' ENTERED AT 11:29:02 ON 04 DEC 2002

FILE 'REGISTRY' ENTERED AT 11:34:20 ON 04 DEC 2002

SET SMARTSELECT ON

L2 SEL L1 1- CHEM : 4 TERMS

SET SMARTSELECT OFF

FILE 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, DRUGUPDATES, .' ENTERED AT 11:34:21 ON 04 DEC 2002

L3 36 S L2

L4 27 DUP REM L3 (9 DUPLICATES REMOVED)

L5 4 S L4 AND (FLAVOBACTER? OR FLAVOBACTERIUM LUTESCENS)

L6 2 S L5 AND (DNA OR CDNA OR NUCLEOTIDE OR POLYNUCLEOTIDE OR NUCL

=> d ibib ab 1-4

L5 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 2001:127069 BIOSIS  
DOCUMENT NUMBER: PREV200100127069  
TITLE: Cloning and characterization of pcd encoding  
DELTA'-piperideine-6-carboxylate dehydrogenase from  
**Flavobacterium lutescens** IFO3084.  
AUTHOR(S): Fujii, Tadashi (1); Narita, Takao; Agematu, Hitosi; Agata,  
Naoki; Isshiki, Kunio  
CORPORATE SOURCE: (1) Central Research Laboratories, Mercian Corp., 4-9-1,  
Johanan, Fujisawa, 251-0057: tfujii@cityfujisawa.ne.jp Japan  
SOURCE: Journal of Biochemistry (Tokyo), (Dec., 2000) Vol. 128, No.  
6, pp. 975-982. print.  
ISSN: 0021-924X.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB The pcd gene from **Flavobacterium lutescens** IFO3084  
encoding DELTA'-piperideine-6-carboxylate dehydrogenase (PCD) was cloned,  
sequenced, and expressed in *Escherichia coli*. The deduced amino acid  
sequence of PCD from *F. lutescens* IFO3084 showed strong similarity to that  
from *Streptomyces clavuligerus*. The molecular mass of the recombinant PCD  
was estimated to be approximately 58,000 Da by SDS-PAGE and native PAGE,  
which indicated that the enzyme molecule is a monomer. The in vitro  
analysis of L-alpha-aminoadipic acid (L-AAA) production showed that L-AAA  
is synthesized from L-lysine in two steps catalyzed by L-lysine  
6-aminotransferase (LAT) and PCD from *F. lutescens* IFO3084.

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS  
ACCESSION NUMBER: 2000:117169 CAPLUS  
DOCUMENT NUMBER: 132:162810  
TITLE: Cloning of genes for L-lysine-2-oxoglutarate  
6-aminotransferase and **piperidine-6**  
**-carboxylate dehydrogenase** from  
**Flavobacterium lutescens** and use of  
the genes for production of L-homoglutamic acid  
INVENTOR(S): Fujii, Tadashi; Narita, Takao; Nakata, Kuniho;  
Agematu, Hitosi; Tsunekawa, Hiroshi; Isshiki, Kunio;  
Yoshioka, Takeo  
PATENT ASSIGNEE(S): Mercian Corp., Japan  
SOURCE: PCT Int. Appl., 62 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008170	A1	20000217	WO 1999-JP4197	19990804
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2337981	AA	20000217	CA 1999-2337981	19990804
AU 9950642	A1	20000228	AU 1999-50642	19990804
EP 1103612	A1	20010530	EP 1999-935047	19990804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRIORITY APPLN. INFO.:				
JP 1998-232382 A 19980805				
JP 1999-182362 A 19990628				
WO 1999-J9 990419W 19990804				
WO 1999-JP4197 W 19990804				

AB The genes encoding L-lysine-2-oxoglutarate 6-aminotransferase (LAT) and piperidine-6-carboxylate (P6C) dehydrogenase are isolated from **Flavobacterium lutescens** strain IFO 3084 and used for the transformation of *F. lutescens* to increase the yield of L-homoglutamic acid. LAT and P6C dehydrogenase are comprised of 491 and 510 amino acids, resp. Transformation of *F. lutescens* with the gene for LAT or P6C dehydrogenase increased the yield of L-homoglutamic acid by 1.5-2 folds.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 DGENE (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: AAY80510 Protein DGENE  
TITLE: L-homoglutamic acid production gene, isolated from **Flavobacterium lutescens** is used for production of transformants with enhanced conversion of lysine to L-homoglutamic acid. -  
INVENTOR: Fujii T; Narita T; Nakata K; Agematu H; Tsunekawa H; Isshiki K; Yoshioka T  
PATENT ASSIGNEE: (SAOC)MERCIAN CORP.  
PATENT INFO: WO 2000008170 A1 20000217 62p  
APPLICATION INFO: WO 1999-JP4197 19990804  
PRIORITY INFO: JP 1998-232382 19980805  
JP 1999-182362 19990628  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
OTHER SOURCE: 2000-195579 [17]

AB This is the sequence of the **piperidine-6-carboxylate dehydrogenase** protein from **Flavobacterium lutescens** which is involved in the production of L-homoglutamic acid from L-lysine. The corresponding gene is capable of restoring L-homoglutamic acid production in mutants of *F. lutescens* lacking this ability. L-homoglutamic acid is used as a synthetic intermediate for drug synthesis including methotrexate.

L5 ANSWER 4 OF 4 DGENE (C) 2002 THOMSON DERWENT  
ACCESSION NUMBER: AAZ91051 DNA DGENE  
TITLE: L-homoglutamic acid production gene, isolated from **Flavobacterium lutescens** is used for production of transformants with enhanced conversion of lysine to L-homoglutamic acid. -  
INVENTOR: Fujii T; Narita T; Nakata K; Agematu H; Tsunekawa H; Isshiki K; Yoshioka T  
PATENT ASSIGNEE: (SAOC)MERCIAN CORP.  
PATENT INFO: WO 2000008170 A1 20000217 62p  
APPLICATION INFO: WO 1999-JP4197 19990804  
PRIORITY INFO: JP 1998-232382 19980805  
JP 1999-182362 19990628  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
OTHER SOURCE: 2000-195579 [17]

AB This sequence represents the gene encoding the **Flavobacterium lutescens piperidine-6-carboxylate dehydrogenase** gene which is involved in the production of L-homoglutamic acid from L-lysine. The gene is capable of restoring L-homoglutamic acid production in mutants of *F. lutescens* lacking this ability. L-homoglutamic acid is used as a synthetic intermediate for drug synthesis including methotrexate.

L6 ANSWER 1 OF 2 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 "ACCESSION NUMBER: 2001:127069 BIOSIS  
 DOCUMENT NUMBER: PREV200100127069  
 TITLE: Cloning and characterization of pcd encoding  
 DELTA'-piperideine-6-carboxylate dehydrogenase from  
**Flavobacterium lutescens** IFO3084.  
 AUTHOR(S): Fujii, Tadashi (1); Narita, Takao; Agematu, Hitosi; Agata,  
 Naoki; Isshiki, Kunio  
 CORPORATE SOURCE: (1) Central Research Laboratories, Mercian Corp., 4-9-1,  
 Johnan, Fujisawa, 251-0057: tfujii@cityfujisawa.ne.jp Japan  
 SOURCE: Journal of Biochemistry (Tokyo), (Dec., 2000) Vol. 128, No.  
 6, pp. 975-982. print.  
 ISSN: 0021-924X.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English

AB The pcd gene from **Flavobacterium lutescens** IFO3084  
 encoding DELTA'-piperideine-6-carboxylate dehydrogenase (PCD) was cloned,  
 sequenced, and expressed in Escherichia coli. The deduced amino acid  
 sequence of PCD from F. lutescens IFO3084 showed strong similarity to that  
 from Streptomyces clavuligerus. The molecular mass of the recombinant PCD  
 was estimated to be approximately 58,000 Da by SDS-PAGE and native PAGE,  
 which indicated that the enzyme molecule is a monomer. The in vitro  
 analysis of L-alpha-amino adipic acid (L-AAA) production showed that L-AAA  
 is synthesized from L-lysine in two steps catalyzed by L-lysine  
 6-aminotransferase (LAT) and PCD from F. lutescens IFO3084.

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 2000:117169 CAPLUS  
 DOCUMENT NUMBER: 132:162810  
 TITLE: Cloning of genes for L-lysine-2-oxoglutarate  
 6-aminotransferase and **piperidine-6**  
**-carboxylate dehydrogenase** from  
**Flavobacterium lutescens** and use of  
 the genes for production of L-homoglutamic acid  
 INVENTOR(S): Fujii, Tadashi; Narita, Takao; Nakata, Kuniho;  
 Agematu, Hitosi; Tsunekawa, Hiroshi; Isshiki, Kunio;  
 Yoshioka, Takeo  
 PATENT ASSIGNEE(S): Mercian Corp., Japan  
 SOURCE: PCT Int. Appl., 62 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008170	A1	20000217	WO 1999-JP4197	19990804
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2337981	AA	20000217	CA 1999-2337981	19990804
AU 9950642	A1	20000228	AU 1999-50642	19990804
EP 1103612	A1	20010530	EP 1999-935047	19990804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: JP 1998-232382 A 19980805  
 JP 1999-182362 A 19990628  
 WO 1999-J9 990419W 19990804  
 WO 1999-JP4197 W 19990804

AB The genes encoding L-lysine-2-oxoglutarate 6-aminotransferase (LAT) and  
 piperidine-6-carboxylate (P6C) dehydrogenase are isolated from

**Flavobacterium lutescens** strain IFO 3084 and used for the transformation of *F. lutescens* to increase the yield of L-homoglutamic acid. LAT and P6C dehydrogenase are comprised of 491 and 510 amino acids, resp. Transformation of *F. lutescens* with the gene for LAT or P6C dehydrogenase increased the yield of L-homoglutamic acid by 1.5-2 folds.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT